

ALASKA



ITS/CVO BUSINESS PLAN



**USING ADVANCED TECHNOLOGY TO ENHANCE PUBLIC SAFETY AND
IMPROVE GOVERNMENT AND INDUSTRY EFFICIENCY**

MARCH 1999

Table of Contents

0. EXECUTIVE SUMMARY	1
0.1 PLAN SUMMARY	2
1. INTRODUCTION.....	5
2. OVERVIEW OF THE BUSINESS PLANNING PROCESS	6
2.1 INTRODUCTION TO THE STATE OF ALASKA	8
2.1.1 <i>Physical and Demographic Characteristics</i>	8
2.1.2 <i>Transportation in Alaska</i>	10
2.2 COMMERCIAL VEHICLE OPERATIONS IN ALASKA	12
2.2.1 <i>The CVO Population</i>	12
2.2.2 <i>CVO Regulation and Enforcement Functions and Responsibilities</i>	12
2.2.2.1 Division of Measurement Standards & Commercial Vehicle Enforcement (MSCVE)	14
2.2.2.2 The Division of Motor Vehicles	14
2.2.2.3 Alaska State Troopers	15
2.2.3 <i>CVO Processes and Multi-State Agreements</i>	15
2.2.3.1 CVO Registration Process	15
2.2.3.2 Alaska Participation in Multi-State Agreements	17
2.2.3.3 Size/Weight Enforcement and Oversize/Overweight Permitting	17
2.3 ECONOMIC AND POLITICAL CONSIDERATIONS	19
3. STRATEGIC OVERVIEW	22
3.1 MISSION STATEMENT	22
3.2 GUIDING PRINCIPLES.....	22
3.3 GOALS AND OBJECTIVES	23
3.3.1 <i>Safety Assurance</i>	23
3.3.2 <i>Credentials Administration</i>	23
3.3.3 <i>Electronic Screening</i>	24
3.3.4 <i>Carrier Operations</i>	24
3.4 ISSUES AND OPPORTUNITIES	24
3.4.1 <i>Safety Assurance</i>	25
3.4.2 <i>Credentials Administration</i>	25
3.4.3 <i>Electronic Screening</i>	26
3.4.4 <i>Carrier Operations</i>	26
4. PROGRAM SUMMARY	27
4.1 BUSINESS PLAN STRUCTURE	27
4.2 ITS/CVO SOLUTIONS	27
4.3 DETAILED PROJECT DESCRIPTIONS	29
4.3.1 <i>Safety Assurance</i>	29
4.3.2 <i>Credentials Administration</i>	33
4.3.3 <i>Electronic Screening Projects</i>	36
4.3.4 <i>Carrier Operations</i>	40
5. ORGANIZATIONAL AND MANAGEMENT APPROACH.....	42
5.1 LEAD AGENCIES.....	42
5.2 MANAGEMENT APPROACH	42
5.3 OUTREACH	42
5.4 SCHEDULING AND MILESTONES.....	42
5.5 COSTS, FUNDING, AND RETURN ON INVESTMENTS.....	43
6. CONTACT NAMES	44
7. ALASKA TRANSPORTATION FAST FACTS	44

0. Executive Summary

The State of Alaska is engaged in deploying ITS/CVO technology in its transportation network. Private industry is currently participating in various business applications that are technologically driven for efficiency.

ITS/CVO Executive Committee Board Members and lead agency representatives are partnering with private sector business leaders to apply ITS technology to government and industry operations while complying with the guidelines outlined in the ITS/CVO architecture.

The ITS/CVO program is an important component in Alaska's current and future planning and development efforts and the Department of Transportation and Public Facilities is taking a leadership role by:

- Directing federal, state, private, human and financial resources toward ITS/CVO functions allowing for active participation and decision making by the Executive Committee, that includes industry and labor participants from the private sector.
- Directing and focusing on state and federal options for improving safety assurance, electronic credentialing, electronic screening and carrier operations including compliance review and roadside commercial vehicle operations for safety, simplicity, and savings (CVISN Model Deployment).
- Bridging intermodal barriers using ITS technological applications stimulated through the creation of public-private sector partnerships.

As a matter of policy ITS/CVO technological applications will, where possible, be implemented as public/private "partnerships." Using these agreements, the state will pursue improved safety strategies, increased carrier involvement, and facilitate intermodal applications to enhance future successes. All of Alaska will benefit with appropriate system enhancements and applications. The State of Alaska's unique role as builder/owner/manager of all significant surface highways, several hundred airports and harbors, the Alaska Railroad, and a marine highway system create unique technological opportunities. Alaska is the only state where the marine highway is part of the National Highway System.

Labor, industry and government enthusiastically support the current ITS/CVO program. The state's willingness to stimulate "partnering" relationships, and encourage private sector investment into ITS/CVO is exemplified by the broad representation and involvement on our multimodal ITS/CVO Executive Committee.

Alaska's CVO regulatory and enforcement responsibilities span the following areas:

- Intrastate registrations
- Commercial Drivers Licensing
- HAZMAT Transportation Response
- HAZMAT Enforcement
- International Border Crossings
- Oversize/Overweight Permits
- Safety Compliance Reviews
- Truck Size & Weight Regulation
- Driver/Vehicle Safety Regulation

0.1 Plan Summary

The Plan provides tactical guidance, a management plan, technical standards for enabling systems interoperability, identification of funding opportunities, outreach education, information sharing, administrative enforcement, and evaluation of the cost benefit to accomplish the goals and objectives. The overall objectives of the plan are intended to: preserve the infrastructure, improve safety, share information, provide for public-private partnerships, bring multimodal connections, and join in international-interstate cooperation.

The Department of Transportation and Public Facilities is the lead agency for the State of Alaska in ITS and ITS/CVO programs. The Division of Statewide Planning leads the ITS program and the CVO activities are directed by the Division of Measurement Standards & Commercial Vehicle Enforcement. To further guide internal State DOT& PF activities in ITS, the Commissioner has directed the creation of an oversight committee to coordinate all internal issues. A number of other departments throughout the State of Alaska contribute to the ITS/CVO programs and projects.

The Business Plan and a federal grant will facilitate the overall deployment of an ITS systems architecture and technologies to provide connectivity with the efficiencies and economies it brings. The Commissioner of DOT&PF has delegated responsibility, assigned staff, and directed the management of ITS/CVO through DOT&PF / MSCVE. The program administrator will propose business partnering relationships with the private sector in implementation of the business plan.

Table 0-1 list Alaska's proposed ITS/CVO projects. The projects in this plan are included because government and industry partners believe they will enhance motor carrier safety in the state or will improve government and industry productivity or both. As project planning proceeds in greater detail, the anticipated cost and benefits will be estimated more accurately based on experience in other states and local factors that affect design, deployment, and operating costs. In some cases, feasibility studies or pilot projects are proposed to determine the practicality, economic feasibility, and effectiveness of certain approaches to ITS/CVO deployment in Alaska.

Table 0-1. Alaska's priority ITS/CVO projects.

<i>Safety Assurance</i>	
SA 1	Fixed and Mobile Access to Roadside Safety Information
SA 2	Indoor Inspection Facility
SA 3	Marine Highway Vehicle Loading System
<i>Credentials Administration</i>	
CA 1	Credentials Data Integration and Access System
CA 2	Electronic Application, Approval, & Issuance of Permits
CA 3	Port of Entry One-Stop-Shopping
<i>Electronic Screening</i>	
ES 1	Fixed Electronic Screening Sites
ES 2	Portable Enforcement Units
ES 3	Temperature Data Program (TDP)
ES 4	Remote Unattended Weigh Station Operation
<i>Carrier Operations</i>	
CO 1	Payload (multi-modal freight tagging and tracking)
CO 2	Highway Closure and Restriction System (HCRS)

Table 0-2 shows the estimated cost and phasing of each of the proposed ITS/CVO deployment projects over the life of the project. Some of the projects listed are underway and funded through federal or state programs other than CVISN deployment funds. Projects marked with asterisks (*) are not currently funded and are the highest priority projects for CVISN deployment funding among those listed. Alaska's matching fund support to ITS/CVO deployment will come from its continued investment in the ITS/CVO projects listed in Table 0-2.

Table 0-2.
Estimated Cost and Phasing
Proposed ITS/CVO Deployment Projects
 (\$000s)

Project	FFY00	FFY01	FFY02	FFY03	FFY04	Total
SA1*	250					250
SA2	50	150				200
SA3	750	500	500	500	250	2,500
CA1*	1,500					1,500
CA2*	300	700				1,000
CA3		200				200
ES1	1,380	1,000	1,000	1,000	1,000	5,380
ES2*	400	300				700
ES3*	800					800
ES4		150				150
CO1	1,300	4,000	500			5,800
CO2	250					250
Total	6,980	7,000	2,000	1,500	1,250	18,730

*Priority projects for CVISN Deployment Funding

1. Introduction

Alaska's ITS/CVO Business Plan is designed to achieve the following: guide agencies and organizations with commercial vehicle responsibilities in the State of Alaska in deploying and using intelligent transportation system technologies and methods to improve highway safety, increase transport productivity, and streamline administrative processes for state agencies and carriers. This plan was prepared under the FHWA-sponsored Commercial Vehicle Information Systems and Networks (CVISN) Mainstreaming program. The plan was developed through an interagency, public, and private collaborative process and takes into account the views and needs of state and municipal agencies and labor and industry partners.

Recognizing Alaska's unique multimodal transportation challenges, the State of Alaska has incorporated the beginnings of ITS/CVO technologies into its' comprehensive Statewide Transportation Improvement Plan (STIP). This plan is developed annually to provide long range strategic direction for public transportation investment over the next six years. The plan calls for a transportation system that is safe, convenient, and efficient which promotes economic prosperity and livability. The plan identifies state, national and international economic, social, and national defense transportation issues. The Alaska Railroad Corporation is owned by the State of Alaska and overseen by a seven-member Board of Directors appointed by the Governor of Alaska. The Department of Transportation is responsible for several hundred airports, ports and harbors, a marine highway system, and the dominant portion of the surface highway system in the state. Due to the state's wide-ranging responsibilities and the close cooperation with local governments, Alaska's Business Plan treats the entire state as one large, diverse regional unit.

All organizations will have to deal with and compensate for "legacy systems." Legacy computer systems are those that do not interface or exchange information with other computer systems subscribing to the national standard. Technology, distance, cost, and institutional barriers are some of the reasons preventing connectivity. Limitations are to be identified and an inventory of ITS and ITS/CVO conditions is scheduled for completion in FY 2000 made possible by Federal grant funding.¹

The opportunity to extend ITS/CVO technologies and applications in a cost-effective manner will result in improved efficiencies in government and improved productivity in private sector operations. The ability to demonstrate increased efficiencies in intermodal freight tracking and transfer systems in Alaska will stimulate private sector investments necessary to realize the full potential of this ITS/CVO initiative. Deployment of ITS/CVO technology in Alaska will continue improvements to the delivery system of people and goods over our integrated multimodal statewide transportation system.

The state has committed to progressively deploy ITS/CVO in the implementation of CVISN Level I Capabilities through the use of federal and state matching funds. The State is participating in the three *ITS/CVO* courses required and will participate in the three CVISN Workshops to develop a Project Plan and a Top Level Design. The state has hired a full-time Project Manager, and has begun the search for a

¹ Section 5209 of the Transportation Equity Act for the 21st Century (TEA-21).

System Architect dedicated to the CVISN project. The U.S. Department of Transportation, Federal Highway Administration and other federal funding programs provide the base funding with state and private sector match.

2. Overview of the Business Planning Process

Alaska's business planning process reflects the needed guidance provided by the Federal Highway Administration Office of Motor Carriers *Guidelines for State ITS/CVO Business Plan, Final Technical Memorandum*, prepared for the Federal Highway Administration by Cambridge Systematics, Inc., February 1997. The Commissioner of Transportation and Public Facilities appointed an Executive Committee to represent and guide the process. This ITS/CVO Executive Committee comprised of city, state agency executives, transportation, labor, industry, military, and the public provided strategic guidance during the planning process, and adopted the ITS/CVO Business Plan. The Executive Committee appointed the ITS/CVO Technical Committee to provide technical support for the Executive Committee. Committee members are shown in Tables 2-1 and 2-2, respectively.

Table 2-1. Alaska ITS/CVO Business Planning Executive Committee

Executive Committee	Title	Agency or Organization
Boyd Brownfield, Chair	Deputy Commissioner	Alaska DOT&PF
Lutfi Raad, Ph.D.	Professor	University of Alaska, Fairbanks
Jeffery Gregory	President	Sourdough Express, Inc.
Charles Hosack	Deputy Director	Department of Administration, DMV
Del Smith	Deputy Commissioner	Alaska Department of Public Safety
Aves Thompson	Acting Director	Alaska DOT&PF, MSCVE
Barbara Huff-Tuckness	Dir., Legis. & Gov. Affairs	Teamster's Local 959
Frank Dillon	Executive Vice President	Alaska Trucking Association
Mark Tabbutt	Vice President	Totem Ocean Trailer Express, Inc.
John Ohle	General Manager	SeaLand Services, Inc.
Harry McDonald	General Manager	Carlile Enterprises, Inc.
Lance Wilbur	AMATS Coordinator	Municipality of Anchorage
Steve Silverstein	Sr. Director, Freight Serv.	Alaska Railroad Corporation
Douglas Terhune	ITS/CVO Administrator	Alaska DOT&PF, MSCVE
Mark Anderson	President	Lynden Logistics, Inc.
John Quartuccio	State Director	FHWA, OMCHS, Alaska
Desiree Ashley Roehl	Administrative Assistant	Alaska DOT&PF, MSCVE
Andy Kline	Special Assistant	Alaska's Lt. Governor's Office
Don Deitz	Director	Port of Anchorage
Lee Gavitt	Transportation Supervisor	Military Representative - EAFB

Table 2-2. Alaska ITS/CVO Business Planning Technical Committee

<i>Technical Committee</i>	<i>Title</i>	<i>Agency/Office/Organization</i>
Douglas Terhune, Chair	ITS/CVO Administrator	Alaska DOT&PF, MSCVE
Tom Brigham	Director of Planning	Alaska DOT&PF, Planning
David Mumford	Traffic Engineer	Municipality of Anchorage
Trooper Hans Roelle	MCSAP Manager/Trooper	Dept. Public Safety, Alaska State Troopers
David Howard	Statewide Supervisor	Alaska DOT&PF, MSCVE
Aves Thompson	Acting Director	Alaska DOT&PF, MSCVE,
Gene Kulawik	Director	Alaska DOT&PF, M&O
Bill Quinn	Computer Network Spec.	Alaska DOT&PF, MSCVE,
Steve Silverstein	Sr. Director, Freight Serv.	Alaska Railroad Corporation
Bruce Richtor	Captain	Anchorage Police Department
Chuck Hosack	Deputy Director, DMV	Alaska, Dept. of Administration
Lisa Marquiss	Regulatory Compliance	Carlile Enterprise, Inc

During a series of meetings over the course of six months, the Working Group used the strategic guidance established by the Executive Committee to identify opportunities for ITS deployment in support of commercial vehicle operations in the state. They developed more than thirty ideas for projects to address the state's issues and opportunities and then used that list of ideas to develop potential projects that address issues in the four national ITS/CVO program areas.

2.1 Introduction to the State of Alaska

2.1.1 Physical and Demographic Characteristics

The magnitude of the multimodal transportation challenge for Alaska is defined by the size of the state and the distribution of its population. With 586,412 square miles of land area, Alaska is the U.S.'s largest state, over twice the size of Texas and one-fifth the size of the lower 48 states (see Figure 3-1). Alaska has 6,640 miles of coastline and, including islands, has 33,904 miles of shoreline. It runs 1,400 miles North to South; 2,700 miles wide East to West.



Figure 2-1. Alaska is one-fifth the size of the lower 48 states.

The 3.5 million acres of the Alaska State Park System constitute the largest park system in the United States. The Tongass National Forest is the largest national forest in the United States. It covers almost the whole of Southeast Alaska. Seventeen of the 20 highest peaks in the U.S. are located in Alaska. Mt. McKinley, located in Alaska's interior, is the highest point in North America, at 20,320 feet above sea level.

In 1995, Alaska's population was 615,900 -- about one square mile for each person in the state. By comparison, New York has .003 square miles per person. Nearly half of the state's residents live in Anchorage and 69% of Alaska's population lives in its 10 largest communities. Figure 3-2 shows how Alaska's population distributes among its largest communities.

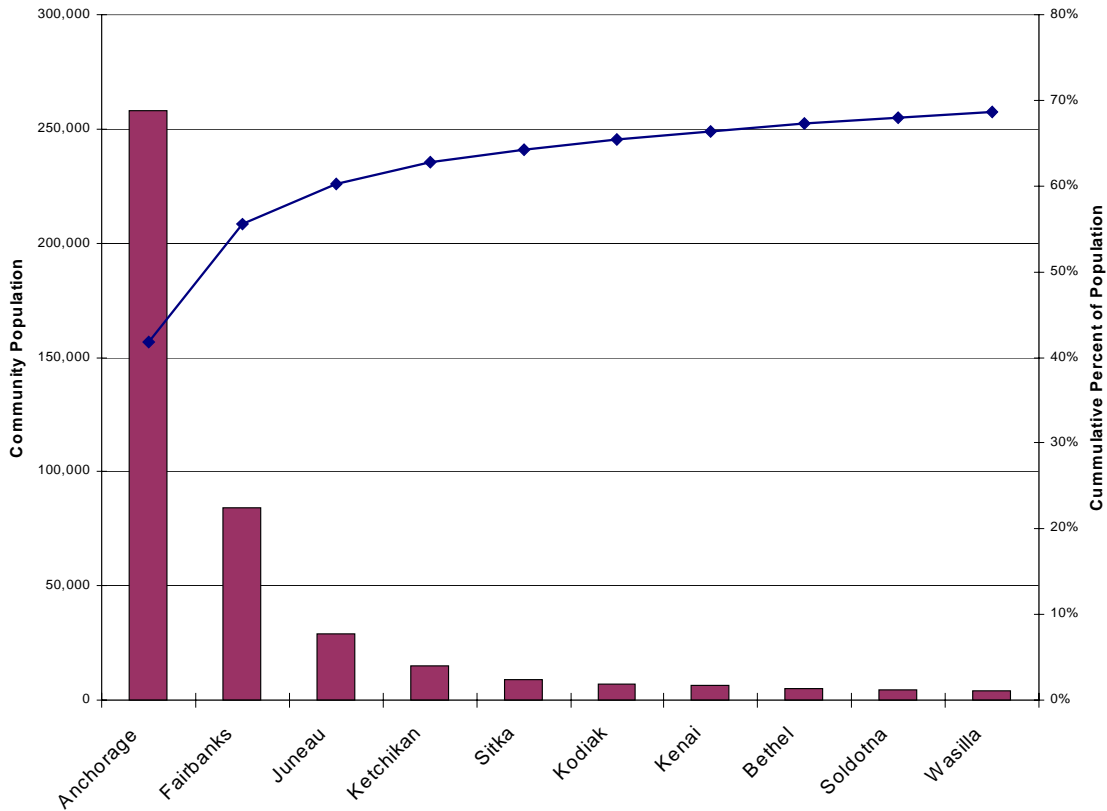


Figure 2-2. Population of Alaska's ten largest communities.

Table 3-1 shows how Alaska's population and land mass compare to other western states. Note that Alaska is similar to Idaho, Montana and New Mexico in the distribution of population between urban centers and rural or remote areas with about half of the population in urban areas. Only Wyoming has fewer people than does Alaska but, because of Alaska's vast size, Wyoming's population density is five times that of Alaska.

Table 2-1. Alaska is the largest and least densely populated state in the nation.

STATE	Net Land Area			Population			
	Square Miles	US Rank	% Urban	(1,000)'s	US Rank	% Urban	Per Sq. Mile
Alaska	570,330	1	0.2	607	49	58.2	1
Arizona	113,642	6	2.4	4,428	24	81.4	39
California	155,973	3	6.0	32,609	1	91.6	209
Colorado	103,729	8	1.7	3,823	26	80.1	37
Idaho	82,751	11	0.6	1,189	42	46.9	14
Montana	145,556	4	0.2	856	44	48.2	6
New Mexico	121,918	5	0.5	1,717	37	61.2	14
Oregon	95,997	10	1.0	3,181	29	67.2	33
Utah	82,167	12	1.1	2,002	35	81.6	24
Washington	66,581	20	3.3	5,517	18	75.4	83
Wyoming	97,105	9	0.5	481	50	59.3	5
U.S. Total	3,537,426		3.3	265,739		73.5	75

2.1.2 Transportation in Alaska

The Southeast Region of Alaska is dependent upon the Marine Highway System and air transportation. The Extreme North Slope Region depends primarily on air transportation for passenger travel. Heavy commodities are shipped via the Dalton Highway, which is a 500 mile gravel surface industrial haul road link to the North Slope. Western Alaska, bordered by the Bering Sea, is serviced primarily by air and seasonal marine transportation only. The Aleutian chain consists of numerous islands and is serviced exclusively by air and sea and stretches 1,400 miles from the population center of Anchorage. The South-central railbelt area is the center of commerce and is served by all four modes of transportation. Because of this diverse transportation infrastructure, Alaska's Department of Transportation is responsible for:

- Over 5,000 miles of state maintained land highways
- Over 300 land and water aviation facilities (260 are maintained by the state)
- Numerous harbor facilities
- A marine ferry system serving both foot passengers and vehicles
- A state-operated passenger and freight rail system
- International border crossing on US/CAN border

Air, rail, road, sea, and even dog sled play an important role in developing Alaska's uniquely multimodal transportation system. Commerce, national security and basic survival depend on transportation:



Air – Anchorage International Airport has been #1 in the United States for total weight of air freight landed for the past seven years. About 50 wide body freighters land at Anchorage International Airport every day. It is estimated that Alaska has about six times as many pilots per capita and 16 times as many aircraft per capita as the rest of the United States. In addition Alaska has 13% of the nations commercial service airports. Through industry, labor and government coordinated efforts Alaska has reached this milestone. The Alaska Aerospace Development Corporation has completed a new space port facility for launching low-earth-orbit satellites on Kodiak Island.



Railroad – The Alaska Railroad, purchased from the U.S. Government, is owned and operated by The Alaska Railroad Corporation. The Railroad was built in 1914, expanding in 1940-43 during WWII by drilling two tunnels through the Chugach Mountains to allow rail access from the port of Whittier, a military fuel depot necessary to the war effort. The Railroad runs from Seward to Fairbanks, through Anchorage, for a total of 661 rail miles. More than 614,000 passengers and 6.5 million tons of freight were carried in 1998.



Highways – Alaska's total national highway system mileage is a significant share of the nation's total. Of approximately 158,000 miles of NHS routes in the United States, Alaska's total of about 2,000 miles represents 3.33 NHS route miles per 1,000 population. The U.S. average is much less at 0.6 miles per 1,000 population. Nearly 30% of Alaska roads are paved whereas 91% of roads are paved in other states. Despite low population and low road density (1 mile per 42 square miles of land area) Alaska has 23 miles of road per 1,000 population. This is 50% more than the U.S. average of 15 miles of road per 1,000 population.



Marine Highway - Alaska's Marine Highway Ferry System is unique among the 50 states, operating eight, 24 hour/day long haul vessels. The total route structure covers approximately 3,500 miles and ranges from Bellingham, Washington up the Inside Passage to the Aleutian Chain and is part of the National Highway System (NHS). Alaska has more than 50% of the entire coastline of the United States. Dutch Harbor, 1,200 miles from Anchorage, is the number one fish port in the United States.



Snowmobiles -- Aviation provides the primary transportation access for many rural, roadless and arctic communities. However, during the cold winter months, the interior's frozen lakes and rivers take on an important role as roadways between villages. Using snow machines and haul sleds, villagers are able to transport goods from the larger villages to the smaller ones and conduct subsistence activities.

The physical environment has always posed significant challenges to transportation as illustrated by the wide range of environmental and climatic conditions ranging from Arctic Circle permafrost to rain forests and wetlands.

ITS/CVO takes on new meaning, challenge, and opportunity in Alaska's dynamic multimodal environment.

2.2 Commercial Vehicle Operations in Alaska

2.2.1 The CVO Population

Commercial vehicles (motor carriers and motor coach companies) operate as part of the state's integrated intermodal transportation system (rail, marine highway, intermodal containers, air transport). The dominate flow of cargo is outbound from Anchorage to other parts of the state with secondary flows to/from other major seaports. The number of time sensitive shipments is increasing due to growth in retail markets and the need to move perishable products to and from locations throughout the state (e.g., produce, fresh seafood).

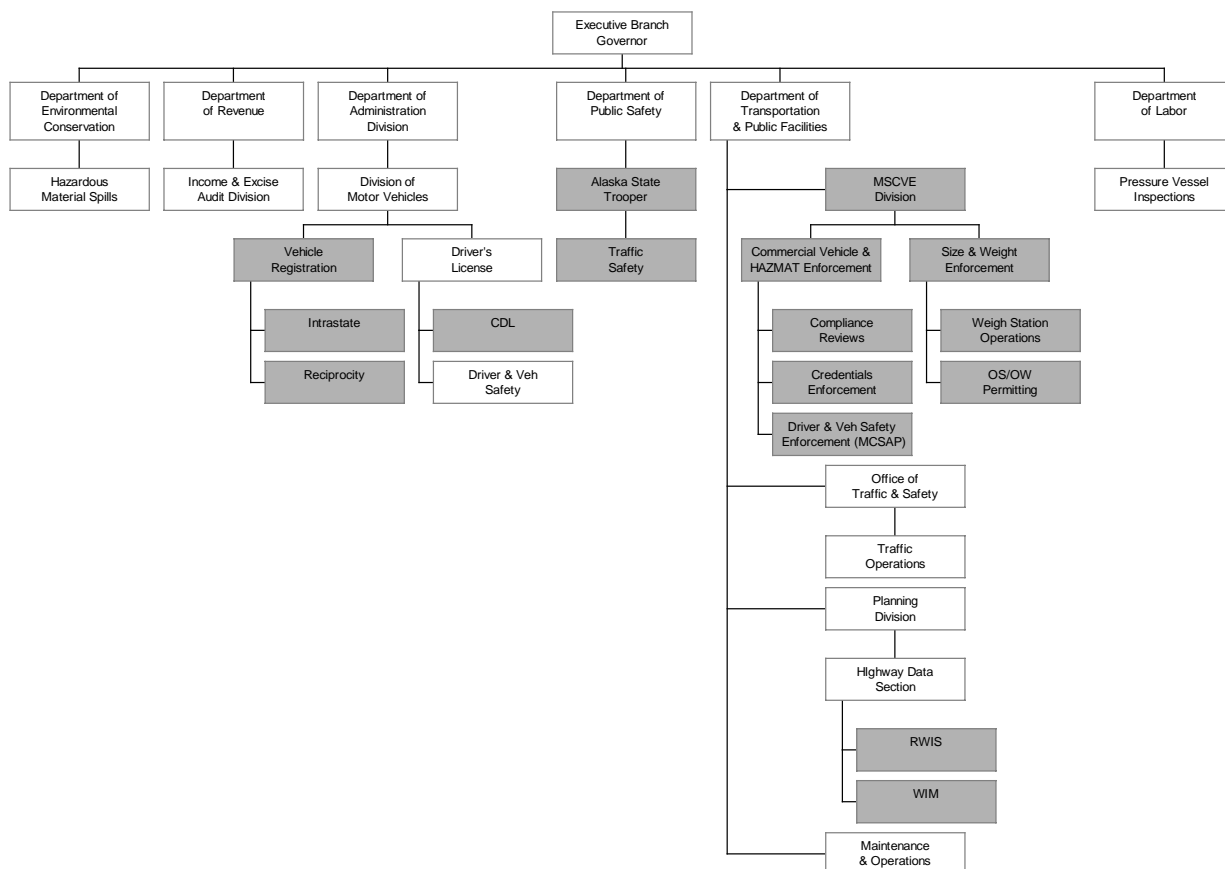
Alaska currently has 4,000 State-based commercial carriers, 1,000 interstate carriers and 35,000 state-based commercial vehicles including 25,000 intrastate vehicles. Motor coaches play a vital role in Alaska's tourist economy. Currently, 2,670 motor coaches are registered in Alaska and of those, 126 are registered in Alaska and at least one other state. Virtually all commercial vehicle traffic originates and/or terminates in Alaska.

2.2.2 CVO Regulation and Enforcement Functions and Responsibilities

Multiple state agencies, private sector companies and related organizations are involved in Alaska's CVO Program. This section focuses on the states' level of CVO regulatory, enforcement, and safety activities. Table 3-2 shows organizational responsibilities for CVO functions. The two organizations with primary responsibility for most CVO regulatory and enforcement functions are the Department of Transportation and Public Facilities and the Department of Administration. A number of other agencies also have CVO responsibilities as part of their overall responsibilities. For example, fuel taxes are collected by the Department of Revenue but these taxes are collected at the pump for both commercial and non-commercial vehicles. Similarly, the Department of Environmental Conservation responds to hazardous material incidents resulting from commercial vehicle incidents or other causes but is not responsible for inspecting vehicles that transport hazardous materials, a responsibility assigned to CVSA-certified MCSAP inspectors. Figure 3-3 shows all of the state agencies that have some level of involvement in motor carrier or motor coach regulatory or enforcement functions. Shaded boxes in Figure 3-3 are agencies that have primary day-to-day CVO regulatory and enforcement responsibilities.

Table 2-2. CVO regulatory and enforcement functions and responsibilities.

Function	Agency
Fuel Use Tax Administration (IFTA)	Not participating at this time
Intrastate Regulations	DOT&PF / MSCVE
Oversize/Overweight Permits	DOT&PF / MSCVE
Commercial Driver Licensing	DOA, DMV
HAZMAT Endorsements	DOT&PF/MSCVE; DPS/AST
Port of Entry Operations	DOT&PF / MSCVE
International Borders	DOT&PF / MSCVE
Size/Weight Enforcement	DOT&PF / MSCVE
Roadside Inspection	DOT&PF / MSCVE; DPS, AST; FHWA
Safety Compliance Reviews	DOT&PF / MSCVE; FHWA
HAZMAT Transportation Response	DPS/AST; DEC; FHWA; DNR
HAZMAT Enforcement	DOT&PF / MSCVE

**Figure 2-3 Alaska state agencies with CVO responsibilities.**

Because of the more extensive involvement of the DOT's Division of Measurement Standards and Commercial Vehicle Enforcement (MSCVE), the DOA's Division of Motor Vehicles, and the DPS's Alaska State Troopers, their responsibilities and activities are described in further detail below.

2.2.2.1 Division of Measurement Standards & Commercial Vehicle Enforcement (MSCVE)

This Department of Transportation and Public Facilities division is a regulatory enforcement agency that regulates truck size, weight and safety as well as weighing and measuring devices used in trade. The division also functions as a coordinating center for ITS/CVO activities for the state.

The Division enforces the size, weight and safety laws relating to vehicles covered under the Alaska Administrative Code and the Federal Motor Carriers Safety Regulations, Part 382 - 399. In addition, reporting and enforcement of mandatory insurance coverage for commercial vehicle financial responsibility for surface motor and air carrier is completed through the division.

Vehicles with non-divisible loads exceeding statutory dimensions or weight limits are required to have a special permit prior to operation on Alaska highways. The Permit Section of MSCVE, consisting of five permit employees, issues more than 18,700 permits annually. The section generates over \$950,000 in revenue for the State of Alaska.

The Size & Weight Section and Commercial Vehicle Inspection Unit have been combined with personnel crossed trained to increase efficiencies and effectiveness of a highly skilled work force. The new "Size, Weight, and Safety Unit" consists of one Statewide Supervisor, 3 area supervisors, 21 inspector/operators, one State Trooper, and one administrative clerk. The fixed weigh stations are open 38% of the time with the exception of Tok located 90 miles west of the Canadian border, which is open 24 hours a day. In FY 1998, the Size, Weight & Safety unit inspected 1,738 commercial vehicles. In addition, they performed compliance reviews.

Commercial vehicle/driver safety and enforcement are priorities in Alaska. As lead commercial vehicle safety agency, MSCVE administers the State commercial vehicle safety program and the Motor Carrier Safety Assistance Program (MCSAP) funds Alaska receives from FHWA. Commercial Vehicle Crash (Form 12-208C), mandated in 1998 by the State of Alaska is recorded by the division. Commercial vehicle safety inspections are conducted by individuals who are trained and certified by the Commercial Vehicle Safety Alliance (CVSA). These CVSA-certified inspectors include both MSCVE inspectors and Alaska State Troopers on assignment to the MSCVE Division. In addition, because of Alaska's expansive land area and remote locations, the DOT is offering training for local law enforcement officers so that they can conduct motor carrier safety inspections.

2.2.2.2 The Division of Motor Vehicles

The Department of Administration, Division of Motor Vehicles (DMV), is responsible for issuing vehicle titles and registrations, examining and licensing drivers, administering driver control programs, and maintaining records for these functions. All commercial vehicles based in Alaska must be titled and registered before commercial operation begins. There is an exception to the registration requirement in areas not connected to the highway system and having an average daily traffic

count of less than 500. All drivers of commercial vehicles must have an appropriate commercial driver license (CDL) issued by DMV.

DMV has 21 field offices operated by state employees and 13 commission agent offices located throughout the state. Each of these offices may register and title commercial vehicles and each office may issue CDL's. There is no requirement to have these functions performed at a central office. At all state offices titles, registrations, license plates, and driver licenses are issued across the counter. In the commission agent offices license plates and driver licenses are issued across the counter and titles and registrations are sent from the central office.

Vehicles in Alaska are normally registered on a biennial cycle, but commercial vehicles may be registered on an annual cycle at the owner's option. All commercial vehicles including both power units and trailers are charged registration fees based on the unladen weight of the vehicle. The fees are not based on the use of the vehicle and there is no distinction between intrastate or interstate carriers or between common, contract or other type carriers. In certain locations DMV collects a Municipal Tax at the time of registration which is returned to the local government in lieu of personal property taxes.

The CDL program is based on the standard FHWA regulations. The only difference is that in locations not connected to the state highway system, CDL's are issued without a road test and are restricted to driving only in these others. The road system in these areas is limited and it is not possible to give a valid road test for commercial vehicles.

All fees collected by DMV are deposited into the state General Fund and are not allowed to be dedicated for any specific purpose. DMV collects over \$36,000,000 annually for vehicle and driver transactions.

DMV may suspend or revoke driver licenses and registrations for various reasons permitted by law, but other than that it has no regulatory authority.

2.2.2.3 Alaska State Troopers

In addition to their normal traffic enforcement and public safety responsibilities, Alaska State Troopers support Alaska's commercial vehicle safety effort by performing commercial vehicle safety inspections.

2.2.3 CVO Processes and Multi-State Agreements

2.2.3.1 CVO Registration Process

The Division of Motor Vehicles (DMV) in the Department of Administration has responsibility for registering all vehicles in the state. DMV operates 30 public service offices located in most major population areas of the state. The vehicles are registered individually and there is no fleet identifier on the vehicle record other than the owner name.

Initial registration must be done at one of these offices by presenting the previous title or the Manufacturer's Certificate of Origin (MCO). Many of the larger commercial vehicles must also present proof of payment of the IRS Heavy Vehicle Use Tax at initial registration and at each renewal. In all state offices, title, registration, and plates are issued immediately across the counter. In smaller locations where commission agents operate DMV offices only the plates are issued and the title and registration are mailed to the owner after data entry is completed.

Registration is required when the vehicle is operated on a roadway and the vehicle must be registered in a commercial category when the commercial use first begins. In certain areas of the state that are not connected to the land or marine highway system and that have an average daily traffic count of less than 500, vehicles are not required to be registered. If registration is required, the registration certificate or a legible photocopy of the original must be carried in the vehicle and must be presented to a law enforcement officer when requested.

The normal registration period is two years and expirations are staggered throughout the year. Commercial vehicles may opt for a one-year registration at the owner's request.

Third-Party Business Partners. DMV has business partners that are authorized to renew registrations or, in the case of new vehicle dealers, are authorized to issue titles, registrations, and license plates. These partners are connected directly to the DMV data system and operate much the same as a DMV office. The majority of the renewal stations are municipal emission inspection stations, where the customer can have the vehicle inspected and the registration renewed in one stop. This same concept could be offered to larger fleets or to a central agent such as the Alaska Trucking Association who could then renew registrations without a need to go to a DMV office. These business partners use a standard office PC and connect to the DMV mainframe through an Internet connection. The business partners actually print registrations and issue validation tabs.

Internet or Phone Renewal. DMV also allows vehicle renewal by Internet or by phone using a credit card for payment. These systems are available 24 hours a day so normal registration renewals can be done at any time. New registration forms and validation decals are mailed within days. Commercial vehicle owners may use this if there are no changes. This system only calculates for the normal two-year registration. If the owner opts to get the one-year registration then some other method of registration renewal must be used. Also if additional documents such as proof of payment of the HVUT are required for renewal then this system cannot be used.

Unladen Weight vs. Gross Weight. Alaska commercial vehicle registration categories are based on the vehicle's unladen weight rather than the gross weight as most other states use. There is no practical reason for one system over the other. Alaska DMV is not opposed to changing, however there will be a cost to doing so as well as extra time and confusion during the change-over period. To make this change and incur this cost there would have to be some valid reasons for doing so and DMV would have to have the support from various industry groups.

Permanent Trailer Registration. HB 404 passed in the 1998 legislative session and one of the changes in this bill was to eliminate annual or biennial trailer registrations. These vehicles would only pay a one-time \$10 plate fee that would be valid for the life of the trailer. The power unit would have to be properly registered in the appropriate category. To ensure that there would be no overall loss of revenue to the state, the registration fees for the power units were increased to compensate for the loss of revenue from the trailers.

Non-Resident Commercial Trip Permits. Commercial vehicles that are not registered in Alaska are required to obtain a temporary registration. In the past there was a very low fee for this temporary permit. Since there was very little enforcement on this, once the vehicle got into the state it could continue to operate

and compete with Alaska registered vehicles while paying a much lower fee. HB404 corrected this situation by raising the fee for a nonresident power unit to \$350 for a 30-day temporary registration effective on July 1, 1998. This put the fees on a par with the fees paid by Alaskan vehicles. The proceeds from these fees may be used by the legislature to fund 24-hour operation of the Tok scale house.

2.2.3.2 Alaska Participation in Multi-State Agreements

Western States Prorate. Alaska is currently a member of the Western States Prorate Agreement (WSPA) and currently has Alaska based vehicles registered under this plan. In the past this agreement has served the state well since much of the interstate traffic was concentrated along the West Coast states and provinces. Now since all states except Alaska and Hawaii must participate in the International Registration Plan (IRP), membership in the WSPA is declining and soon it will no longer exist. When this happens, then Alaska based carriers may have to pay separate fees to each state and province since Alaska is not a member of the IRP.

International Registration Plan (IRP). Alaska was a member of the IRP at one time but withdrew from the plan in 1975. The mechanics of participating in the plan at that time were very cumbersome. Alaska is a terminal state with very limited mileage compared to the extensive mileage in other states. Since the revenue derived was based on the percentage of total annual miles operated in any one state, the income for Alaska was negligible. Alaska was processing thousands of registrations for less than a dollar in fees because companies would list 100 or 50 Alaska miles out of 100,000 driven annually just on the off chance that the vehicle would go to Alaska.

The original ISTEA legislation required all states except Alaska and Hawaii to become members of IRP and provided grants for implementation. Since all states and most of the Canadian provinces would join IRP, Alaska felt it would be in the state's best interest to participate. Alaska made a request to FHWA to receive a grant for implementation the same as the other states but that request was denied because Alaska was not required by ISTEA to become an IRP member.

There is a large start-up cost mainly for software to calculate prorated registration fees. Alaska did not have funding for this and made no move to join IRP. There were concerns that perhaps there was a valid reason for joining IRP for promoting uniformity among the states so the National Governor's Association (NGA) issued a contract for an economic feasibility study to evaluate the benefit of Alaska joining IRP. This study was completed in November 1998 and the benefit was not justified.

International Fuel Tax Agreement (IFTA). There is an international agreement for payment of fuel taxes that allows interstate vehicles to operate in multiple states without obtaining special permits or shopping for the lowest fuel tax rates during cross country travel. IFTA works much the same way that IRP does in that the vehicles pay a fee to each state based on the percentage of total annual miles operated in any one state. In Alaska all fuel taxes are collected at the pump rather than a separate tax filing so there has been no reason to participate in IFTA.

2.2.3.3 Size/Weight Enforcement and Oversize/Overweight Permitting

Alaska's size/weight enforcement program differs from many states in that Alaska does not have a single gross vehicle weight limit. Instead, Alaska limits loads based on the overall dimensions of the vehicle and spacing of and the distribution of weight over load bearing axles. Because of severe weather conditions that affect

pavement performance, Alaska's maximum axle weights vary from season to season. At present, highway engineers restrict axle weights to lower limits during the freeze/thaw cycles that occur in spring and fall. Lacking real-time data, these restrictions must be applied conservatively to minimize the possibility of damage to highways and related infrastructure. During these restricted periods, heavy haul operations cannot take place, resulting in scheduling difficulties for motor carriers and delays to industries that depend on the heavy equipment (e.g., oil field operations) to sustain production activities.

Additionally, different routes are restricted to different overall lengths due to maneuverability and vehicle clearance restrictions. Figure 3-3 shows vehicle restrictions for the key routes between Anchorage and Fairbanks (left map) and between Fairbanks and the North Slope (right map). The restrictions are applied based on the overall length of the vehicle.

Motor carriers can purchase oversize/overweight permits for non-divisible loads at permit offices in Fairbanks and Anchorage or by faxing the permit application to the DOT. Currently over 90% of permits applied for are issued by fax. The permit is faxed to the motor carrier so that the entire transaction occurs without delaying the carrier or requiring the carrier to appear at a permitting location.

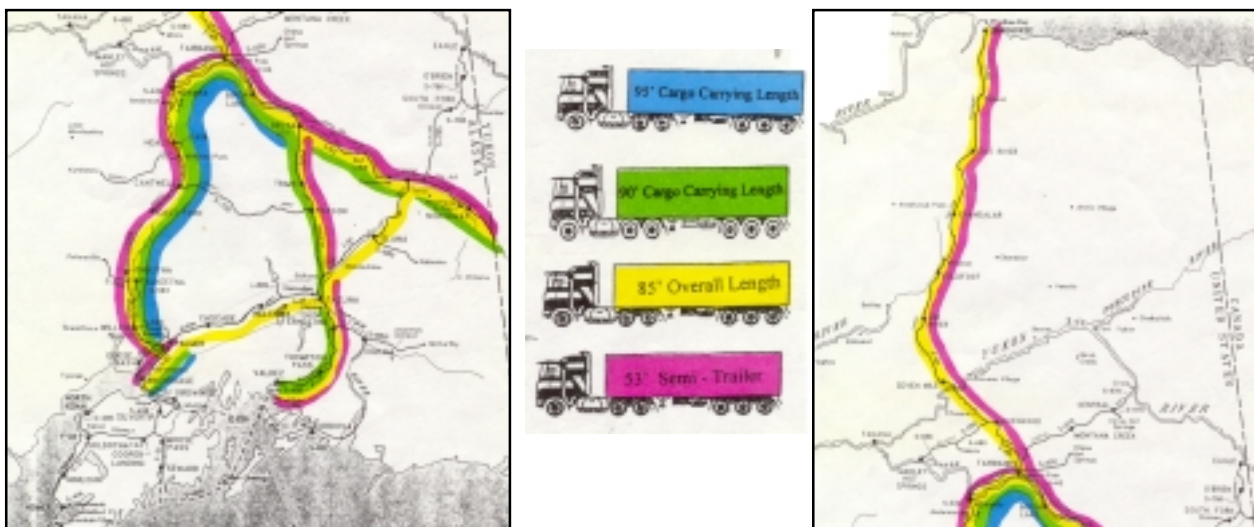


Figure 2-3. Route restrictions as a function of vehicle overall length

2.3 Economic and Political Considerations

Alaska is a leader in the development and use of a truly intermodal transportation system in partnership with private sector demands. As a resource state, Alaska exports raw materials of significant weight and size while importing manufactured products. Alaska's private and public sectors economic viability revolves around the multimodal transportation system. Alaska's economy is built around natural resources and tourism as indicated by the following facts:

- Alaska's oil and natural gas industry includes North America's largest oil field at Prudhoe Bay and moves 88,000 barrels of oil per hour along the 800 miles from Prudhoe Bay to Valdez.
- Alaska's seafood processing and fishing industries are the State's largest private industry employer. Most of America's salmon, crab, halibut, and herring come from Alaska.
- Hard rock minerals are one of Alaska's most important undeveloped natural resources. These minerals include coal, gold, silver, copper, and many others.
- Alaska attracts over 1.1 million visitors annually. Tourism is Alaska's second largest primary employer.

The economic history of the state has been a boom and bust cycle that has moderated as the economy matures. From the gold rush era to the mid-eighties, sectors of the economy were subject to wild fluctuations. While always a natural resource state, the oil and gas industry, in recent decades, has been a major steadying force in the economy. State government spending has played an important role in carrying stabilization into areas not directly impacted by the oil and gas industry.

Oil produced in Alaska represents 25% of the U.S. oil supply and oil taxes provide more than 80% of state general fund revenues. As expected, the fluctuation in the oil supply around the world directly impacts the price of crude oil from Alaska and the income to the state. Fund reserves from oil revenues have made possible

absorption of minor income fluctuation. A substantial down turn in the price of oil in late 1998, continuing into 1999, has caused a cash flow crisis for the state and the oil industry to layoff a significant portion of their work force. One oil company alone cut 600 jobs from its work force in January 1999. Reduced state revenues has caused the government to consider alternative funding sources.

In 1995, Alaskan's personal income amounted to \$15 billion or an individual per capita income of \$24,053. The 1992 gross state product data amounts to \$26 billion or per capita \$42,834. The 1996, vehicle-miles traveled in Alaska (private and commercial vehicles) totaled 4.1 billion or 6,779 miles per capita. During this same period commercial vehicles traveled about 215.1 million miles or about 5.2 percent of VMT.² These figures must be evaluated in the light of Alaska's multimodal environment where an Alaskan is likely to fly than drive.

Prior to the down turn in the price of oil the University of Alaska, Anchorage, Institute of Social and Economic Research (ISER) projected economic and demographic growth through the year 2020. They estimated a range of potential growth (high, medium, and low). A short summary of the medium case projections are presented here, based on assumptions about future levels of natural resource production and other variables that seem most likely today. This analysis divides the state into three geographic areas: Southcentral & Interior, Southeast, and Western-Arctic.

- **Total employment**, including both wage jobs and self employment, is projected to grow just over one percent annually between 1996 and 2020, more slowly in the next few years and somewhat faster in the subsequent years. This is slower growth than in recent decades, and results from maturation of the economy, maturation of the petroleum industry, and the fiscal constraints on state and local governments. Growth will continue in spite of a continued decline in oil production.
- **Real (adjusted for inflation) personal income** will grow about 1.6% annually between now and 2020. Income will grow faster than employment mainly because of growth in non-wage income (pensions and dividend/interest/rent income).
- **Population** will likely grow around 1.5% annually over the next 25 years. An estimate of Alaska's population in 2020 will most likely be 40 percent larger than it is today. Migration and natural increase (births minus deaths) will insure that population growth at least keeps pace with employment growth. Population growth is expected to be faster than employment. That is because the population over 65 will grow rapidly and the working-age population will be, on average, older; as people age a declining percentage choose to work.
- The **Southcentral-Interior** area will grow faster than the Southeast, and growth will be slowest in the Western-Arctic. Between now and 2020, population is projected to grow 1.5% annually in the Southcentral-Interior, 1.4% in the Southeast, and 1% in the Western-Arctic. In all areas, population will grow faster than employment.

² Source is U.S. Bureau of Economic Analysis as published in Statistical Abstract of the United States, 1996. Per Capita for Gross State Product is based on 1992 population. Percent trucks, includes single-unit trucks with at least 2 axles and 6 tires plus combination trucks. Data are based on State Highway agency estimates. Nation average is weighted on vehicle-miles of travel.

- In **Southeast Alaska**, little growth is projected for fishing, logging and state government, which have been the historical mainstays of the regional economy. However, tourism is a growing part of the regional economy. Increased mining will also fuel economic growth.
- The **Western-Arctic** area is the least economically developed area in the state and will remain so for the foreseeable future. Commercial fishing and processing employment in the southern areas is expected to stay at about current levels. Petroleum development and mining activity will provide continuing employment in the northern areas. Most new jobs in the coming years will be in the support or government sectors, but growth will be slow, because of the budget constraints state and local governments face.
- **Growth in employment and in personal income will be about the same in urban and rural areas**—an annual average of around 1.2% for employment and 1.6% for personal income. This may seem surprising at first glance, but while support and infrastructure jobs are concentrated in urban areas, oil industry and mining jobs tend to be in rural areas. Tourists visit both urban and rural areas. Also, urban and rural are defined by census area – which means that regional centers like Nome and Dillingham are considered rural, and so is the Mat-Su Borough just north of Anchorage.
- **Rural areas statewide will see slightly faster population growth than urban areas** (1.6% annually, compared with 1.4%) however much of the difference can be traced to growth in the Mat-Su Borough – which although it borders on Anchorage is classified as rural. Differences in rural and urban growth within the three areas are mostly due to how the entire census areas are classified rather than to actual urban/rural differences.
- **The political organization** of the state is structured around regional governments, designated boroughs and local government classified as cities (three classes). To a degree in smaller remote villages, tribal native entities provide varying degrees of governance. A large part of Alaska lands have no regional or local governments.

This modest economic projection reinforces the need for state government to become more efficient and to help the state's industrial base become more productive and more competitive in global markets. Given these economic projections and the general trend toward smaller government, Alaska state agencies are likely to remain at current staff levels or decrease. Alaska is fortunate to have political leadership that has the vision to encourage innovation and embrace change. Alaska benefits from a strong senior national congressional delegation with leadership positions on key committees. Senior agency leadership shows willingness to eliminate or update obsolete or unnecessary CVO laws and administrative rules that impede government and industry efficiency. Alaska is unusual in the close relationships between its political leaders and their various constituencies, including the general public and the private sector. In fact, many Alaskans know their political leaders personally and keep them well informed of the needs of Alaska's residents and industrial base.

3. Strategic Overview

3.1 Mission Statement

Alaska's ITS/CVO mission statement describes what the state hopes to accomplish through programs, projects, activities and resources it manages. In Alaska, industry and government have committed to work together towards common objectives requiring cooperation and collaboration across agencies and organizations as well as public and private sector partners.

The ITS/CVO Executive Committee, comprised of representatives from industry, local, state and federal agencies, developed the Alaska ITS/CVO Mission Statement. The mission statement guided the Executive Committee and Working Group as they identified critical elements to be addressed in the ITS/CVO Business Plan.

Alaska's ITS/CVO Mission Statement is to maximize transportation safety and the productivity of carriers and government through appropriate technologies and cooperation from agencies, industry, and the public to allow commercial vehicles safe and free movement throughout North America.

3.2 Guiding Principles

Guiding principles provide the ground rules for developing projects and plans that enable the Alaska ITS/CVO mission to be accomplished. Current and future projects will be tested against these principles before being included in Alaska's ITS/CVO Business Plan. The Executive Committee reviewed principles established by national groups and other states and then formulated ITS/CVO guiding principles for Alaska by modifying and augmenting these to make them specific to state and local community needs. The guiding principles adopted by the Executive Committee are as follows:

Guiding Principle 1. Provide for the public transportation safety, accept stewardship responsible of the infrastructure found necessary to promote economic development through minimal regulation.

Guiding Principle 2. Identify, integrate, and stimulate application of ITS technologies in all areas of transportation.

Guiding Principle 3. Actively promote policy to seek public-private partnering relationships stimulating an ever-increasing private sector investment and involvement in the ITS/CVO program.

Guiding Principle 4. Develop and administer policies seeking to minimize complexity and cost, while providing the most efficient interface possible to industry and the general public.

Guiding Principle 5. Implement appropriate ITS/CVO technology changes to ensure a balance of organizational structure to achieve efficiency and effectiveness for multi-modal motor carriers, drivers, governments and other CVO stakeholders.

Guiding Principle 6. Focus roadside operations to eliminating unsafe and illegal carriers, drivers and vehicles, without reducing the productivity and efficiency of safe and legal drivers.

Guiding Principle 7. Evaluate new technology applications against regulatory choices that incorporate low technology and non-technology options to ensure that applications are cost effective for both government and industry.

Guiding Principle 8. Insure data exchange systems integrity and prevent unauthorized access.

Guiding Principle 9. Align technology applications with appropriate standards (state, national, international) after feasibility has been demonstrated.

Guiding Principle 10. Establish systems allowing properly equipped vehicles to operate with paper-less credentials.

Guiding Principle 11. Implement a performance-based evaluation system for all carriers based on best, available information and common criteria.

Guiding Principle 12. Conduct inspections and audits in a manner that will provide incentives for carriers and users to improve poor performance.

Guiding Principle 13. Implement compatible policies, architecture and inter-operable systems in all jurisdictions.

Guiding Principle 14. Improve and/or maintain CVO practices to ensure safety for carriers and the public.

Guiding Principle 15. Reduce time spent conducting redundant processes, and increase the amount of time spent verifying safe and legal operations.

Guiding Principle 16. Reduce costs for the state and transportation industry.

3.3 Goals and Objectives

Alaska's ITS/CVO Goals & Objectives are based on important issues identified by the Alaska ITS/CVO Executive Committee. The goals are organized around the national ITS/CVO program areas as applied to Alaska.

3.3.1 Safety Assurance

Goal: Improve safety by targeting enforcement on high-risk carriers, drivers, and equipment.

Related Objectives:

1. Increase the education and information opportunities.
2. Improve equipment maintenance practices.
3. Focus enforcement agency on higher risk operators.
4. Reduce the frequency and duration of stops for "model" carriers.

3.3.2 Credentials Administration

Goal: Improve the ease, satisfaction, and automation of obtaining credentials when mutually advantageous to the public and private sectors.

Related Objectives:

1. Increase the education and information opportunities.
2. Improve private use of electronic registrations.
3. Utilize electronic registrations to focus enforcement on high risk operators.

3.3.3 Electronic Screening

Goal: To improve roadside enforcement operations and maintain the basic infrastructure supporting the efficient movement of commercial vehicles.

Related Objectives:

1. Identify carriers, drivers and vehicles operating unsafely or illegally.
2. Reduce the frequency and duration of stops for safe and legal carriers.
3. Prioritize transportation improvements that meet the needs of commercial vehicles as well as other modes.
4. Assist the state in the identification of key maintenance challenges.
5. Enhance the efficiency and effectiveness of regulatory agencies such as the weigh station program through improved technology, measuring, and tracking systems.
6. Promote improvements in commercial vehicle transportation hubs and connections.
7. Improve the monitoring and documentation of oversize/overweight vehicle impacts on the infrastructure.

3.3.4 Carrier Operations

Goal: Enhance the linkages between all modes (truck, water, air & rail) for the efficient movement of freight.

Related Objectives:

1. Improve the connection and flow of commercial vehicle operations between modes.
2. Improve the connection and flow of truck traffic in and out of the Port of Anchorage that provides 75% of all the goods consumed by Alaskans.
3. Support technical efforts in the analysis of goods and services movement problem areas.
4. Identify and improve major freight distribution routes.
5. Access to movement of freight.

3.4 Issues and Opportunities

Over the past year, Alaska's key motor carrier regulatory and enforcement agencies have participated in regional organizations and programs that provide the state continued benefits of guidance and beneficial programs. The forums identify barriers and establish processes for resolving conflicts between agencies for the user benefits. They provide the work place to establish joint management and related operational agreements. Interoperability requires establishment of standard criteria for technical and operational activities including carrier enrollment, "by-pass" criteria focused on safety and efficiency. Participation in regional forums provides information about funding, outreach, administrative enforcement, international border crossings, and operational issues. Sharing intermodal information allows ITS/CVO activities to build on existing and evolving technologies thereby increasing efficiencies, effectiveness, and economies of scale.

The backdrop of Alaska's history establishes the foundation for future decisions. In 1984, the Alaska Transportation Commission, which issued credentials for operating authority, was abolished and Alaska became an open state with no set tariffs and no

operating authority required. This same situation exists today in that no operating authority is required. To operate, a vehicle must be properly registered, must have insurance, and must be properly identified with the business name and a USDOT number or a similar number issued by the commercial vehicle enforcement section.

3.4.1 Safety Assurance

Safety Enforcement Operations. Current weigh station configurations consist primarily of older static scales with only a visual or verbal signal by the inspector to the driver to indicate clearance or hold for inspection. The inspector has virtually no information about the vehicle unless he requires the driver to pull in and bring credentials into the station for review. Even then, the inspector has no access to any information about the safety history of the vehicle or driver. The stations also operate on limited schedules due to the number of inspectors available to staff the stations. Only the Tok and Fox weigh station is open 24 hours a day, with the remaining stations open on average 38% of the time. This gives operators of potentially unsafe vehicles the opportunity to schedule trips at hours when they know stations will not be operating, which increases the probability that some carriers will operate in an illegal or unsafe manner. Additionally, the unique nature of the Alaska Marine Highway System creates a need to ensure that an efficient method is developed for determining size dimensions and weight of vehicles and containers being loaded on the ferries to assure safe operation of this portion of the National Highway System.

Number and Location of Inspection Facilities. Alaska currently operates a total of ten weigh stations throughout a state with a land mass that is about one-fifth the size of the continental United States. Nine of the ten are located near the two largest population centers, Anchorage and Fairbanks. There are twenty-one certified inspectors available to staff these sites as well. In attempting to oversee the operations of commercial vehicles, these inspectors find themselves overwhelmed by sheer numbers and physical space. In order to compensate for the small number of certified inspectors, the state has initiated a program to train local law enforcement officers in how to conduct vehicle inspections. This allows roving inspection teams to supplement their numbers when conducting safety inspection operations in remote areas of the state.

Inspection Facilities. Commercial vehicle safety inspections are normally conducted at weigh stations throughout the state. Currently, there are no inspection facilities with inspection pits or overhead cover. With the extreme weather conditions faced throughout much of the year, inspectors are limited in the number of inspections they can conduct simply due to an inability to remain outside for long periods of time.

3.4.2 Credentials Administration

Accessibility of Data. Currently, two state agencies are responsible for maintaining different types of data on commercial vehicles. The DMV maintains vehicle registration records and driver credentials; DOT collects and manages safety inspection data and issues oversize/overweight permits. DOT safety inspectors validate vehicle and driver credentials as part of a CVSA Level 1 inspection but must rely on information provided by the carrier and driver. Inspectors need electronic access to current vehicle and driver credentials as they conduct inspections at weigh stations or on the roadside.

Expansion of Fax-on-Demand Program. DOT currently has a program in operation that allows commercial vehicle operators to request and receive information about permitting and other CVO related processes. DOT would like to expand this capability to offer a wider range of information to motor carriers and the traveling public. Fax-on-demand services can assist in outreach to motor carriers concerning registration and permitting procedures, especially when new technologies are deployed that enable electronic permitting and other CVO functions.

3.4.3 Electronic Screening

Staffing of Current Weigh Stations. With limited size/weight and safety enforcement staffing, Alaska roadside activities need to focus on high risk carriers, vehicles, and drivers. At present, when weigh stations are open, all commercial vehicles must enter the weigh station and cross the scales. Alaska can increase the effectiveness of its size/weight and safety enforcement activities by focusing its limited staff resources on the highest risk carriers, vehicles, and drivers and providing means for safe and legal vehicles to legally by-pass open weigh stations.

Weigh Station Access. Several of Alaska's weigh stations are located on one side of the highway. Trucks enter weigh stations by making a left turn across oncoming traffic into the station. They cross the scales and then exit the station by crossing one or more lanes of traffic to proceed on their trip. This maneuver increases the potential for crashes resulting from failure to yield to oncoming traffic or rear end collisions with trucks turning left.

Number and Locations of Weigh Stations. With only ten weigh stations in existence in a state that is one-fifth the size of the lower forty-eight states, it is very difficult to monitor activities and provide services all over the state. Since an expansion in the number of state personnel is not expected, the only way to expand the area covered by the current inspectors is to create some type of mobile inspection capability. While the state does have a plan to increase the number of weigh stations, the reality is that the money needed to construct these sites may be better spent in other areas. There is also a need to provide permitting and credentialing capabilities at seaports and border crossing locations to facilitate the entry of vehicles and cargo into Alaska.

Infrastructure Concerns. Extreme weather conditions and the lack of specific weight restrictions on Alaskan highways (trucks are restricted based on axle weight rather than gross vehicle weight) creates a situation where the highway infrastructure is a critical concern for state agencies. Alaska already has initiated programs to monitor road temperatures to assist state agencies in determining when to start and stop route restrictions in order to preserve infrastructure.

3.4.4 Carrier Operations

Remoteness of Area and Distances Traveled. Alaska's size and economic base require trucks to travel great distances in remote parts of the state. In many areas of Alaska, services are widely separated and access to communications is limited. Commercial vehicle drivers generally carry cellular telephones or other communications technologies. However, Alaska does not have the satellite coverage to provide real-time location monitoring of commercial vehicles similar to that found in other parts of the nation. On-board Global Positioning System (GPS) devices could enable drivers to know their locations but, unless they can

communicate that information, their precise location is unknown to others. In the event of an emergency in which the driver is unable to communicate, most carriers have no easy way to determine a vehicle's precise location.

Route Planning and Scheduling. Because of the long distances and uncertain road conditions, motor carriers need accurate and timely information about the current and forecasted weather and road conditions at the time a trip commences. They need to know about road restrictions or closures (e.g., weight restrictions during the freeze/thaw cycles), potential construction detours or delays, accidents or incidents that affect travel, and weather-related road conditions (icing, snow, rain, etc.).

4. Program Summary

4.1 Business Plan Structure

This business plan process is designed to respond to identified needs and opportunities. The plan will be updated on an annual basis to reflect changing needs, priorities, opportunities, accomplishments, and resources. The ITS/CVO Executive Committee provides guidance and inspiration into partnerships between the private and public sectors to implement the strategies noted in the plan.

4.2 ITS/CVO Solutions

Each of the needs listed in the previous section requires innovative solutions that use technology to increase motor carrier safety and improve administrative processes. The ITS/CVO working group developed a number of solution ideas to address needs and take advantage of opportunities afforded by advanced technology. Table 5-1 shows how these ideas relate to the specific needs identified during the planning process.

Table 4-1. ITS/CVO solutions to Alaska's CVO needs.

<i>Need/Opportunity</i>	<i>Solution Ideas</i>
<i>Access to safety information at roadside</i>	<ul style="list-style-type: none"> • Laptop Implementation with Aspen • Access to SAFER • Laptop Computers with Cellular Modems
<i>Access to credential information at weigh station and roadside</i>	<ul style="list-style-type: none"> • Communications Hardware Upgrade • Size, Weight & Safety Enforcement PC • Electronic Applications & Issuance of Permits • Database Computer • Electronic Records & Storage & Retrieval • Marine Highway Load Measurement
<i>Antiquated/inadequate weigh station equipment and unsafe access/egress to weigh station</i>	<ul style="list-style-type: none"> • Weighing System Upgrade • Weigh In Motion (WIM) System • AVI Transponder Systems • Indoor Inspection Facility
<i>Need for real-time access to road/weather data</i>	<ul style="list-style-type: none"> • Road & Weather Information System (RWIS) • Highway Closure and Restriction System (HCRS)
<i>Infrastructure preservation</i>	<ul style="list-style-type: none"> • Temperature Data Program (TDP) • Automated Traffic Recorder Reconstruction (ATR)
<i>Public Safety</i>	<ul style="list-style-type: none"> • Lifelink • GPS Locater Systems
<i>Need for mobile & remote enforcement</i>	<ul style="list-style-type: none"> • Tacport • Remote Unmanned Weigh Station Operation • Portable Enforcement Unit
<i>Seamless, multi-modal freight movement</i>	<ul style="list-style-type: none"> • Payload
<i>Multi-modal, multi-agency, bi-national coordination</i>	<ul style="list-style-type: none"> • Inter-modal Port Facilities • Border / Multi-use Facility
<i>Administrative efficiency for government and industry</i>	<ul style="list-style-type: none"> • On-line Licensing & Registration • Electronic Payment for Permits • Fax on Demand Upgrade
<i>Need to train on use of new systems</i>	<ul style="list-style-type: none"> • Training – Enforcement Officers • Training – Industry Personnel

These solution ideas are interrelated and cut across all four areas in the national ITS/CVO program. Alaska's ITS/CVO Working Group reviewed these solution ideas and used them as the basis for developing specific projects for Alaska's ITS/CVO Business Plan. Table 5-2 lists the twelve top priority projects that emerged from the review of CVO needs and solution ideas. These projects are organized into the national ITS/CVO program areas.

Table 4-2. Alaska's priority ITS/CVO projects.

Safety Assurance	
SA 1	Fixed and Mobile Access to Roadside Safety Information
SA 2	Indoor Inspection Facility
SA 3	Marine Highway Vehicle Loading System
Credentials Administration	
CA 1	Credentials Data Integration and Access System
CA 2	Electronic Application, Approval, & Issuance of Permits
CA 3	Port of Entry One-Stop-Shopping
Electronic Screening	
ES 1	Fixed Electronic Screening Sites
ES 2	Portable Enforcement Units
ES 3	Temperature Data Program (TDP)
ES 4	Remote Unattended Weigh Station Operation
Carrier Operations	
CO 1	Payload (multi-modal freight tagging and tracking)
CO 2	Highway Closure and Restriction System (HCRS)

Detailed Project Descriptions follow brief categorical descriptions in the areas of: Safety Assurance, Credentials Administration, Electronic Screening and Carrier Operations.

4.3 Detailed Project Descriptions

4.3.1 Safety Assurance

Laptop computers with the federally sponsored ASPEN inspection are being deployed to the field inspectors. SAFER, a data storage and retrieval system, is being incorporated into the day to day operations of MSCVE. The laptop computers will be equipped with cellular modem capabilities to facilitate the electronic transfer and retrieval of safety and other pertinent data at both roadside and fixed inspection locations. Efforts are currently underway to achieve near real time communication. A weighing system upgrade at four weigh stations will be completed in 1999. The upgrades will include a dedicated PC to provide for simultaneous size, weight and safety enforcement. Specific safety assurance projects are:

SA 1 Fixed and Mobile Access to Roadside Safety Information

Project Number	SA 1
Project Title	Fixed and Mobile Access to Roadside Safety Information
Project Description	Provide laptop computers to all inspection personnel to facilitate reporting through the use of Aspen software, access to SAFER data for interstate carriers, and access to the planned state data warehouse for credential and permitting information in the state systems.
Goals & Objectives	<p>Achieve electronic data collection, harmonize data entry through usage of the ASPEN software, reduce redundant data entry and facilitate electronic data transfer and exchange with other states and other entities.</p> <p>Provide access to national safety information from the SAFER system.</p> <p>Provide access to state maintained credentials and permitting data and information.</p> <p>Provide training to all personnel who will be using the systems.</p>
Desired Outcome	All inspectors will be assigned laptop machines with remote data upload, download and replication capabilities using cellular modems.
Project Location	Fixed and mobile inspection sites
Technical Approach	Analyze local working and data collection conditions, identify appropriate equipment/laptops, procure laptops, outfit laptops with ASPEN and other appropriate software, and train users, deploy equipment with users and begin electronic data capture and transmission.
Organization & Management	<p>Lead Agency - MSCVE/CVO</p> <p>Supporting Agencies – FHWA, OMC, DMV, DPS, DOT, local enforcement agencies</p>
Schedules and Milestones	Identify and purchase laptops by or before March 30, 1999. Configure laptops for field use and install software by or before June 30, 1999. Deploy laptops and train users by or before August 30, 1999. Begin full-scale statewide electronic data capture and replication by or before October 30, 1999.
Funding Approach	MCSAP Technology grant; SOA GF soft match.
Estimated Cost	\$250,000

SA 2 Equipment for an Indoor Commercial Vehicle Inspection Facility

Project Number	SA 2
Project Title	Equipment for an Indoor Commercial Vehicle Inspection Facility
Project Description	Provide equipment for Indoor Commercial Vehicle Inspection Facility to support year around driver / vehicle safety inspections. Critical to the ability to conduct a thorough safety inspection in the state due to the amount of time inspectors are subjected to below freezing temperatures.
Goals & Objectives	Equip an indoor inspection facility to support year around driver / vehicle safety inspections to increase the volume and integrity of .
Desired Outcome	At the present time, full scale driver / vehicle safety inspections in the state are limited to the spring and summer months because of weather conditions and the non availability of an inside facility for such use. The heated indoor facility will offer additional safety protection to the motoring public of Alaska by allowing inspectors to provide year around inspection coverage and increase the percentage of drivers and vehicles being inspected.
Project Location	Glenn Outbound Weigh Station at Mile 11 of the Glenn Highway, Richardson InBound Weigh Station located at Mile 358 of Richardson Highway, the Tok Weigh Station located at Mile 1308 Alaskan Highway and the Sterling Weigh Station on the Sterling Highway.
Technical Approach	Identify availability of land, procedure for purchasing land, identify size of facility needed and required equipment.
Organization & Management	The Division of Measurement Standards & Commercial Vehicle Enforcement will be responsible for the operation of the facility and the Department of Transportation and Public Facilities will be responsible for design and overseeing the construction.
Schedules and Milestones	The facility is in the planning stage with a projected completion date of summer 1999. Design during 2000. Completion date for the construction is 2001.
Funding Approach	Federal Highway Administration funding and State match funds.
Estimated Cost	\$200,000

SA 3 Marine Highway Vehicle Loading System

Project Number	SA 3
Project Title	Marine Highway Vehicle Loading System
Project Description	Automated system to measure vehicle size (dimensions) and weight for positioning on ferries.
Goals & Objectives	To safely and efficiently operate new high-speed, displacement hull ferries, crews must be able to correctly position loads (vehicles and containers) based on size, weight, origin, and destination.
Desired Outcome	Be able to quickly determine the specifics of individual vehicles (loads) and where to position them on the ferries.
Project Location	Marine Highway System, both onboard and on shore.
Technical Approach	Install shore-side scanning/sensor systems to determine vehicle (load) characteristics. Reservation system will determine fees and where to place loads on the ferry.
Organization & Management	Lead Agency – DOT & PF, SE REGION AMHS (Alaska Marine Highway System)
Schedules and Milestones	Design and test pilot system Deploy to approximately 20 ports from Seattle to Southeast, Southcentral, and Southwest Alaska, to the Aleutian port of Unalaska.
Funding Approach	STIP (AMHS is part of the National Highway System)
Estimated Cost	\$2.5 million

4.3.2 Credentials Administration

Commercial vehicle registrations and licensing upgrades have just been completed by the Department of Administration, Division of Motor Vehicles. A joint venture, multinational facility utilizing ITS/CVO technology has been proposed for the Canadian border on the Alaska Highway. The Division of MSCVE is exploring the use of ITS/CVO applications in proposed intermodal freight handling facilities at Seward and Point McKenzie. Specific credentials administration projects are:

CA 1 Credentials Data Integration and Access System (CDIAS)

Project Number	CA 1
Project Title	Credentials Data Integration and Access System (CDIAS)
Project Description	Setup central CVO data warehouse that contains, or allows access to, all state-maintained information about vehicle credentials and permitting, information on driver credentials, and information on carrier safety records.
Goals & Objectives	Meet federal requirements for ITS/CVO national architecture database; make sure Alaska ITS/CVO database meets ITS/CVO database architecture standards for harmonious and successful data exchanges. Update communications hardware in order to provide access to information from all inspection sites across the state.
Desired Outcome	Provide near real-time access to all information available concerning a carrier, driver, or vehicle. Provides seamless link between DMV and DOT records, and allows authorized personnel to access that information from either fixed or mobile locations.
Project Location	Computer server will be located at MSCVE Headquarters, Anchorage, Alaska.
Technical Approach	Identify best database technology and communications hardware, procure and install database. Configure according to ITSCVO national architecture standards. Train MSCVE personnel on database administration and maintenance.
Organization & Management	Lead Agency - MSCVE/CVO Supporting Agencies - FHWA, OMC, DOT
Schedules and Milestones	Identify best database and communications hardware products by or before September 30, 1999. Install and configure to ITSCVO standards by or before December 30, 1999. Train MSCVE personnel by or before December 30, 1999.
Funding Approach	SOA GF, Grants, ITSCVO, MCSAP
Estimated Cost	\$1,500,000

CA 2 Electronic Application, Approval, & Issuance of Permits

Project Number	CA 2
Project Title	Electronic Application, Approval, & Issuance of Permits
Project Description	Electronic Application and Issuance of Oversize and Overweight Permits
Goals & Objectives	Enable electronic commerce and enable carriers and public to self apply for specific permits, obtain state approval of the request, and receive the permit. Will tie in with current system recently implemented that provides for electronic payment of fees for permits.
Desired Outcome	Enhanced enforcement, increased public and commercial safety, enhanced carrier operation and minimization of commercial carrier interruption Increase permitting effectiveness, efficiency and reduce long term operational costs.
Project Location	Anchorage and then state wide
Technical Approach	Identify permits appropriate for electronic application and issuance. Identify or develop electronic system to accommodate the same. Identify necessary hardware. Install the hardware, software, and initiate project.
Organization & Management	Lead Agency - MSCVE/CVO Supporting Agencies – other ITSCVO states using electronic permitting
Schedules and Milestones	Project begun 1997. Identify permits appropriate for this process by or before September 30, 1999. Identify necessary hardware and software by or before September 30, 1999. Identify electronic system to accommodate application and delivery of these permits by or before December 30, 1999. Install or develop identified system by or before March 30, 2000.
Funding Approach	SOA GF. MSCAP, ITSCVO, Grants
Estimated Cost	\$1 million

CA 3 Port of Entry One-Stop-Shopping

Project Number	CA 3
Project Title	Port of Entry One-Stop-Shopping
Project Description	To improve the safe and legal movement of people and goods into/or across the United States via the Alaska / Canada border.
Goals & Objectives	To provide state of the art electronic credentialing, customs clearances, container tracking procedures and systems at ports of throughout the state. Design and operate a one-stop-shopping facility at ports of entry to accomodate weigh station operations, driver and vehicle safety inspections, U.S. Customs, Alaska State Troopers, Fire protection activities, The Division of Tourism and the Division of Motor Vehicles.
Desired Outcome	Simplify overall port of entry processing and reduce expenses for all associated parties. Create seamless border between Alaska / Canada and reduce delay of commercial vehicle operation. Provide a one-stop facility for customs processing of personnel leaving and entering the state by motor vehicle, tourism visitor center addressing the needs of tourists visiting the state and Department of Motor Vehicle processing of out-of-state registration. Provide the Alaska State Troopers with local facilities for police operations; dispatch services and emergency response and house fire protection personnel and equipment. The Division will have heated inside facilities to support year round driver / vehicle safety inspections along with a weighing system to ensure size and weight regulatory compliance.
Project Location	Selected Alaska ports of entry
Technical Approach	Conduct a feasibility study, coordinate government enforcement efforts, identify needs of each organization, identify desired location and provide overall study of design.
Organization & Management	Lead agency, MSCVE, partner with DOT & PF, Canadian officials, U.S. Customs, Alaska State Troopers, Department of Motor Vehicles, Division of Tourism and Fire Support agencies. Representatives from each organization will be responsible for providing supervision of their programs and joint management of the facility. The primary responsibility for the facility will rest with MSCVE.
Schedules and Milestones	A facility on the Canadian border is in the initial planning stage with a feasibility study beginning in the summer of 2000. Coordinate governmental enforcement efforts involving all agencies identified. Enter into design stage in 2000. Develop management plan in 2001 and initiate a joint operations agreement in 2001. Bidding stage in 2001, construction and completion in 2003. All depending on availability of funding.
Funding Approach	Federal Highway Administration funding and State match funds.
Estimated Cost	\$200,000 for initial feasibility study

4.3.3 Electronics Screening Projects

The projects described below represent the level of commitment to electronic screening by the state to the ITS/CVO, beginning projects in the development of multimodal solutions to challenges in Alaska's transportation systems. Electronic screening projects are:

ES 1 Fixed Electronic Screening Sites

Project Number	ES 1			
Project Title	Fixed Electronic Screening Sites			
Project Description	Construct or upgrade up to 13 fixed electronic screening sites with WIM systems based on hydraulic load cells and bending plates installed in 100-meter concrete pavement sections.			
Goals & Objectives	Provide capability to identify, weigh, and check operating credentials of vehicles as they move past weigh facilities at main line speeds in order to select appropriate vehicles for more complete inspections.			
Desired Outcome	<p>Assist the enforcement agency to focus limited resources on non-compliant carriers.</p> <p>Reduce costs for carriers in compliance with the laws.</p> <p>Increase safety by increasing the number of safe commercial vehicles on the highway.</p> <p>Achieve an adequate level of weight enforcement to meet Federal standards.</p> <p>Provide data to the Alaska Pavement Management System.</p> <p>Provide for weighing and sorting capabilities, for identifiers, transponders, and other main line communication capabilities for credentialing, weather reporting, safety, and driver information to be added later.</p> <p>Provide training for personnel who will operate facilities</p>			
Project Location	Port of Anchorage Bridge (pilot)	New	Fox @ W/S	Existing
	Tudor/Muldoon Road	Existing	Chulitna	Existing
	Glenn Hwy N. of Palmer	Existing	Richardson O/B @ W/S	New
	Glenn Hwy O/B W/S	New	Tok @ W/S	New
	Seward Hwy @ Potter W/S	Existing	Soldotna	Existing
	Minnesota Drive	Existing	Homer Spit	Existing
	New Seward Highway	Existing	Kenai Spur	Existing
Technical Approach	<p>Accept client (DOT&PF / MSCVE) input.</p> <p>Install current state of the art electronics and software.</p> <p>DOT&PF complete construction and replacements.</p> <p>Train appropriate personnel</p>			
Organization & Management	<p>DOT&PF will replace and manage the installation of this equipment.</p> <p>Agency partners DMV, Department of Administration.</p>			
Schedules and Milestones	1 Site, 1999, 2 Separate & 2 Embedded Sites 2000, 4 Separate sites 2001, 2 Separate & 2 Embedded sites 2002.			
Funding Approach	Federal grants and state matching funds.			
Estimated Cost	\$5.380 Million			

ES 2 Portable Enforcement Units

Project Number	ES 2
Project Title	Portable Enforcement Units
Project Description	Portable Enforcement Units designed to provide a mobile inspection and/or port of entry platform utilized throughout the state.
Goals & Objectives	Improving highway safety by providing a mobile inspection platform that can be utilized throughout the State highway system. The system could also operate as a mobile port of entry for remote locations.
Desired Outcome	Allow inspections and portable scale operations anywhere needed within the State. Establish safer trucks throughout the State.
Project Location	Statewide along the highway system and harbors or airports.
Technical Approach	Purchase vehicle and related equipment. Train personnel in the use of the vehicle.
Organization & Management	MSCVE, the Lead Agency, would be responsible for the purchase, maintenance, and deployment of the unit's.
Schedules and Milestones	Conduct preliminary study to assess needs for type of vehicle's and equipment needed. Advertise bid for the purchase of the vehicles. Equip and field test. Actual deployment of the vehicles for field use.
Funding Approach	ITS/CVO MCSAP State General Funds Yearly cost approximately \$6,000.00 per vehicle
Estimated Cost	\$200,000 for a vehicle that can be lived in for extended periods of time. Daily-use vehicles would less expensive.

ES 3 Temperature Data Program (TDP)

Project Number	ES 3
Project Title	Temperature Data Program (TDP)
Project Description	This project includes thermister readings at 3- and 6- inch intervals to a depth of 72 inches beneath the bottom of the pavement, together with surface pavement temperature and ambient air temperature. The information is used to determine the locations and depth of frozen material under roads built over unstable soils.
Goals & Objectives	Gather as a part of RWIS (Roadway Information System) upgrade the expansion of the ongoing temperature data program to determine subsurface conditions for imposition of weight restrictions by installation of collection equipment.
Desired Outcome	Preserve highway infrastructure with temperature data driven weight restrictions. Minimize duration or eliminate imposition of highway weight restrictions.
Project Location	Expand on the 30 TDP sites strategically located to report weather impacts with most on rural highways.
Technical Approach	Identify specific data gathering equipment. Purchase and install TDP equipment. In many sites the TDP's will operate using solar panel powering batteries and cell phones for communications.
Organization & Management	Lead Agency: DOT&PF, Central Region, Highway Data Section will administer the installation and operational aspects of this program. Other Agencies: FHWA, ITS/CVO.
Schedules and Milestones	Installation scheduled for the 1999 construction season.
Funding Approach	Federal grant and state capital money
Estimated Cost	\$800,000

ES 4 Remote Unattended Weigh Station Operation

Project Number	ES 4
Project Title	Remote Unattended Weigh Station Operation
Project Description	Equip remote unattended weigh stations.
Goals & Objectives	Facilitate remote unattended Weigh Station operation. Expand and enhance size, weight, and safety capabilities.
Desired Outcome	Enhanced state wide truck size, weight and safety program capabilities through technological enhancements.
Project Location	Valdez weigh station identified as first pilot
Technical Approach	Identify necessary primary and secondary equipment necessary as well as hardware and software. Install the same. The success of this project relies upon the successful statewide communications hardware upgrade.
Organization & Management	Lead Agency – MSCVE/CVO Supporting Agencies – FHWA, OMC, DOT, DOA, and various other third party participants.
Schedules and Milestones	Identify necessary components by or before June 30, 1999. Procure the same by or before September 30, 1999. Install components by or before January 30, 2000. Test and Initiate remote operations in Valdez by or before May 30, 2000.
Funding Approach	SOA GF, MCSAP, ITSCVO, Grants
Estimated Cost	\$150,000

4.3.4 Carrier Operations

Mainstreaming structures, facilities, equipment, programs, and processes at all Alaskan border facilities are due for upgrading. Proposals are in development to address these needs. Applications of current technology to freight tracking and transfer systems are proposed in PAYLOAD, a proposed project and grant application which has been forwarded under the FHWA Corridors and Borders Program. This proposal included a series of alternatives, modules, totaling over \$5 million dollars and will include extensive partnerships with the private sector. Specific carrier operations projects are:

CO 1 PAYLOAD Intermodal Freight Tracking And Transfer System

Project Number	CO 1
Project Title	PAYLOAD
Project Description	A project to develop and deploy an Intelligent, intermodal freight tracking and transfer technology (FT3) system in Alaska.
Goals & Objectives	The project will act as a laboratory to design, develop and deploy fully functional FT3 systems on a limited scale, in a cost-effective manner, yet with all the elements of a system of any size.
Desired Outcome	A seamless, intermodal freight tracking and transfer system that embodies the critical elements of a nationwide system.
Project Location	Statewide with international implications
Technical Approach	Develop FT3 physical infrastructure, operating practices and business processing in a fully intermodal, real world setting. Develop new forms of public/private partnerships to serve as models for national FT3 deployments. Build proof of concept FT3 systems under rigorous field conditions.
Organization & Management Approach	DOT&PF in conjunction with a number of private sector companies will manage segments, modules, of the program. Private industry will be able to monitor the operation of the intelligent transportation system easily, inexpensively and continuously to determine the location, route, condition, and arrival time of components, assemblies and finished products. FT3 systems will truly enable the manufacturing process to extend beyond the factory walls, where physically separated components produced by different companies are brought together as needed in a single, unified assembly system.
Schedules and Milestones	Gain approval from funding source. Identify partnering interests Develop new forms of Public/Private Partnerships (P3s) to serve as models for national FT3 deployments Build 'proof of concept' FT3 systems under rigorous field conditions.
Funding Approach	The Department has requested discretionary (grant) funding for PAYLOAD from the USDOT under both the National Corridor Planning and Development (NCPD) program and the Coordinated Border Infrastructure (CBI) program.
Estimated Cost	\$5.8 million

CA 2 Highway Closure and Restriction System (HCRS)

Project Number	CO 2
Project Title	Highway Closure and Restriction System (HCRS)
Project Description	A data collection and distribution center that provides information to the traveling public.
Goals & Objectives	Highway closure and restrictions data collection and distribution for transportation and public safety personnel to enter real time highway closure and restriction information into a central system and then provide that information to the traveling public.
Desired Outcome	Provide information DOT management decisions on highway closure and restrictions to increase public safety. Provide information to general users facilitate for effective decision making if highway closure or restrictions have been imposed.
Project Location	Statewide sites which are determined to have heavier traffic, remote locations, and dangerous highway
Technical Approach	Determine the appropriate computer equipment and software. Insure computer-dissemination closure and restrictions to traveler information venues such as: voice remote access system (accessible to the public through a toll free number), kiosks, and an Internet web site.
Organization & Management	DOT&PF will replace and manage the installation of these sensors
Schedules and Milestones	Most of the installations are scheduled for 1999.
Funding Approach	STIP funded with State and Federal Highway money
Estimated Cost	\$250,000

5. Organizational and Management Approach

5.1 Lead Agencies

The Department of Transportation and Public Facilities is the lead agency for the State of Alaska in ITS and ITS/CVO programs. The Division of Statewide Planning leads the ITS program and the CVO activities are directed by the Division of Measurement Standards & Commercial Vehicle Enforcement. To further guide internal State DOT& PF activities in ITS, the Commissioner has directed the creation of an oversight committee to coordinate all internal issues. A number of other departments throughout the State of Alaska contribute to the ITS/CVO programs and projects.

5.2 Management Approach

The Business Plan and a federal grant will facilitate the overall deployment of an ITS systems architecture and technologies to provide connectivity with the efficiencies and economies it brings. The Commissioner of DOT&PF has delegated responsibility, assigned staff, and directed the management of ITS/CVO through DOT&PF / MSCVE. The program administrator will propose business partnering relationships with the private sector in implementation of the business plan.

5.3 Outreach

Alaska's motor carrier and motor coach industry is key to successful implementation of this ITS/CVO plan. Alaska's state agencies already work closely with their industry partners as evidenced by industry participation in ITS/CVO training courses and the ITS/CVO business planning process. MSCVE makes frequent presentations to industry associations and will continue to keep its partners informed of progress in implementing this ITS/CVO plan. Motor carrier representatives have committed to participate in the CVISN Design Workshops and the state will provide travel support for their attendance.

5.4 Scheduling and Milestones

An ITS/CVO Administrator position is being created which will also function as the CVISN (Commercial Vehicle Information Systems and Network) project manager. A "System Architect" position is in the process of creation to meet the requirement of the participation in the TEA-21 ITS Deployment Program.³ The proposed deployment schedule for proposed projects is provided in Table 6-1. This schedule is contingent on funding availability from both federal and state sources and will be adjusted based on the timing of funding.

Table 5-1. Proposed schedule for ITS/CVO deployment projects.

³Federal Transit Administration, Notification of Participation in the TEA-21 ITS Deployment, FHWA Deputy Administrator, FTA Deputy Administrator, December, 29, 1998. Attachment 1 CVISN requirements to hire two individuals CVISN and provides \$350,000 for their support.

Project	FFY00	FFY01	FFY02	FFY03	FFY04
SA1					
SA2					
SA3					
CA1					
CA2					
CA3*					
ES1					
ES2					
ES3					
ES4*					
CO1					
CO2					

*Striped period is for deployment following initial feasibility study.

5.5 Costs, Funding, and Return on Investments

Each project proposed in this plan is included because government and industry partners believe it will enhance motor carrier safety in the state or will improve government and industry productivity or both. As project planning proceeds in greater detail, the anticipated cost and benefits will be estimated more accurately based on experience in other states and local factors that affect design, deployment, and operating costs. In some cases, feasibility studies or pilot projects are proposed to determine the practicality, economic feasibility, and effectiveness of certain approaches to ITS/CVO deployment in Alaska.

Table 6-2 shows the estimated cost of each of the proposed ITS/CVO deployment project over the life of the project. Some of the projects listed are underway and funded through federal or state programs other than CVISN deployment funds. Projects marked with asterisks (*) are not fully funded and are the highest priority projects for CVISN deployment funding among those listed. Alaska's matching fund support to ITS/CVO deployment will come from its continued investment in the ITS/CVO projects listed in Table 6-2.

Table 6-2.
Estimated Cost and Phasing
Proposed ITS/CVO Deployment Projects
 (\$000s)

<i>Project</i>	<i>FFY00</i>	<i>FFY01</i>	<i>FFY02</i>	<i>FFY03</i>	<i>FFY04</i>	<i>Total</i>
SA1[#]	250					250
SA2	50	150				200
SA3	750	500	500	500	250	2,500
CA1*	1,500					1,500
CA2*	300	700				1,000
CA3		200				200
ES1[#]	1,380	1,000	1,000	1,000	1,000	5,380
ES2*	400	300				700
ES3[#]	800					800
ES4[#]		150				150
CO1	1,300	4,000	500			5,800
CO2	250					250
Total	6,980	7,000	2,000	1,500	1,250	18,730

*Priority projects for CVISN Deployment Funding

[#]Indicates projects already underway or included in current funding plans.

6. Contact Names

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7. Alaska Transportation Fast Facts

General Facts

- **Land Area:** Alaska is about 20% as large as the rest of the US, or larger than the states of Texas, California and Montana combined.

- **Geographic Extent:** Alaska is not just large, it is also far-flung, with the Southeast "panhandle" and Aleutian Chain extending its geographic scope. From north to south it measures 1,420 miles, or about the distance between Denver and Mexico City, and from east to west it measures nearly 2,500 miles, or about the distance from Savannah, GA to Santa Barbara, CA. The map below compares Alaska and the "Lower-48" illustrating the three most distant maintenance stations employed by the department.
- **Land Ownership:** Including federal and state land ownership, nearly 90% of the land in Alaska is in public ownership.
- **Population:** Alaska's 1995 population estimate of just over 600,000 is about 0.2% of the US total of 260,000,000.
- **Population Density:** Alaska has the lowest population density of all states with only one person per square mile. The US average is 74 persons per square mile.
- **Rural Myth:** Contrary to widely held perceptions, Alaska's population is decidedly urban. In 1995, 71% of Alaskans lived in cities of over 2,500 people.
- **Vehicles and Drivers:** Alaska has 820 vehicles per 1,000 population while the US ratio is 750 vehicles per 1,000 population. Alaska has 738 drivers per 1,000 population while the US ratio is 670 drivers per 1,000 population.

Land Transportation

- **Road Density:** Alaska has one mile of road for every 42 square miles of land area. The U.S. average is one to one and the next lowest state is Nevada with one to 2.5
- **Road Miles per Capita:** Despite low population and low road density, Alaska has nearly 23 miles of road per 1,000 population. This is 50% more than the US average of 15 miles of road per 1,000 population.
- **NHS Mileage:** Alaska's total National Highway System mileage is a significant share of the nation's total. Of approximately 158,000 miles of NHS routes in the United States, Alaska's total of about 2,000 miles represents 3.33 NHS route miles per 1,000/population. The US average is much less at 0.6 miles per 1,000/population.
- **Not Connected:** Nearly 30% of Alaska's population is not connected by road or ferry to the continental road network
- **Pavement:** Less than 20% of Alaska's roads are paved whereas 91% of roads are paved in the other 49 states.
- **VMT:** Because Alaskans travel so often by air and ferry, the VMT (vehicle miles traveled) represents only 0.17% of the US total.

Air Transportation

- **Commuter Air Travel:** Alaska's population comprises only 0.2% of the US population yet Alaskans utilize 13% of all commuter airline and air taxi trips in the US. This means Alaskans use commuter airlines 65 times more often than the average US citizen.
- **Seaplane Bases:** Alaska not only has the largest seaplane base in the world, Lake Hood; it also has 102 seaplane bases, far more than any other state.
- **Air Freight:** Alaska's Anchorage International Airport has been number one in US for total weight of air freight landed there for the past seven years. About 50 widebody freighters land at Anchorage International every day.
- **Pilots and Aircraft:** It's estimated that Alaska has about 6 times as many pilots per capita and 16 times as many aircraft per capita as the rest of the US.

- **Commercial Service Airports:** Alaska has 76 commercial service airports (2,500+ enplanements annually) of the 570 such airports in the US. This is 13% of the national total.

Waterborne Transportation

- **Ferries:** Alaska's ferry system is unique among the fifty states, operating eight 24-hour/day long-haul vessels that include restaurants, lodging and lounges. The total route structure covers 3,500 miles and includes ocean-passages of the storm-tossed Gulf of Alaska.
- **Ports:** Of the 177 major ports in the US, Alaska has eleven, or 6% of all such ports in the US.
- **Coastline:** Alaska has more than 50% of the entire coastline in the US.
- **Fishing:** Kodiak and Unalaska hold the top two spots in the US for volume of fish landed annually.

Space Transportation

- **Space Launches:** Kodiak Island is slated to be a launch site for low-earth-orbit satellites. The Alaska Aerospace Development Corporation is pursuing development efforts on this new spaceport. The FAA has recently approved an environmental assessment of the spaceport.

Winter Transportation

- **Trails:** An historically important transportation system, winter trails utilize the long, cold, grip of winter to provide a solid surface where wet ground and water surfaces exist in summer. The department continues to mark many of these trails for transport by dog sled and snow machine. They form an important element of the rural transportation system in areas lacking roads and highways.
- **Ice Roads:** A few areas of Alaska utilize ice roads to traverse rivers and normally soft ground. In some areas these roads require little more than blading to keep the snow clear and in other areas water is pumped and spread on the road to build up structural strength. In other applications they are an acceptable alternative to the damage caused by permanent roads in sensitive landscapes. Such roads are commonly used in other high-latitude countries such as Canada and Russia also.